DOCUMENT RESUME

ED 406 476 UD 031 632

AUTHOR Hoerr, Thomas R.
TITLE Implementing Multiple Intelligences: The New City School Experience. Fastback 407.
INSTITUTION Phi Delta Kappa Educational Foundation, Bloomington, Ind.
REPORT NO ISBN-0-87367-607-6
PUB DATE 96
NOTE 55p.
AVAILABLE FROM Phi Delta Kappa Educational Foundation, 408 N. Union, P.O. Box 789, Bloomington, IN 47402-0789.
PUB TYPE Reports - Descriptive (141)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS Cognitive Processes; Educational Assessment; *Educational Theories; Elementary Education; Individual Differences; *Intelligence; Parent Education; *Parent Participation; Performance Based Assessment; Portfolio Assessment; Preschool Education; Private Schools; *Teacher Role; Teaching Methods
IDENTIFIERS Gardner (Howard); Missouri (Saint Louis); *Multiple Intelligences; Stakeholders

ABSTRACT

This brief reviews the concept of multiple intelligences (MI) and discusses the implementation of the theory of MI in the New City School, an independent school in St. Louis (Missouri). The theory of MI, as developed by Howard Gardner, says that there are at least seven different intelligences: linguistic, logical, musical, bodily-kinesthetic, spatial, interpersonal, and intrapersonal. Everyone possesses some degree of each of the seven, but no two individuals have exactly the same configuration. MI theory is not a theory of learning styles nor a curriculum in its own right. An MI approach means that different intelligences are recognized and valued. The implementation of MI theory in a school is context- and teacher-specific, but the three essentials in implementing MI theory are putting students first, educating all stakeholders, and recognizing teachers as the key. Most MI classrooms provide cues, such as posters, that remind students and teachers of the intelligences. It is not realistic to include all intelligences in every lesson, but remaining aware of the possibilities means that they can be brought into lessons frequently. Educational assessment should take multiple intelligences into account through performance assessments such as portfolios. Educating parents about multiple intelligences is a key component of school success with MI theory. (Contains one figure and six references.) (SLD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U

407 FASTBACK®

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN OTHER THAN PAPER COPY HAS BEEN GRANTED BY

D.R. Walling
Phi Delta Kappa

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

ED 406 476

Implementing Multiple Intelligences: The New City School Experience

Thomas R. Hoerr

UD 031 632

BEST COPY AVAILABLE

30TH ANNIVERSARY 1966-1996

PHI DELTA KAPPA EDUCATIONAL FOUNDATION

Thomas R. Hoerr

Thomas R. Hoerr is the director of New City School, an independent school in St. Louis, Missouri. The school serves students from age three through the sixth grade. The faculty of New City School began implementing the theory of multiple intelligences during the 1988-89 school year.

Prior to working at New City School, Hoerr was a principal in the school district of University City. He also has taught at the elementary level. In addition to his current work at New City School, Hoerr coordinates the Non-Profit Management Program at Washington University.

Hoerr earned his doctorate in educational policy making and program development from Washington University. He has written extensively about how the theory of multiple intelligences can be used in schools and classrooms.

The author wishes to thank the faculty of New City School for their support and assistance in developing this fastback.

Implementing Multiple Intelligences: The New City School Experience

by
Thomas R. Hoerr

Library of Congress Catalog Card Number 96-69446
ISBN 0-87367-607-6
Copyright © 1996 by the Phi Delta Kappa Educational Foundation
Bloomington, Indiana

This fastback is sponsored by the Sinnissippi Illinois Chapter of Phi Delta Kappa, which made a generous contribution toward publication costs.

Table of Contents

Beliefs About the Nature of Intelligence 7
The Theory of Multiple Intelligences (MI) 9
Understanding What MI Is Not 13
Success in School Is Different from Success in Life 14

Implementing MI at New City School 17

MI in the Classrooms 25
Integrating MI into Typical Lessons 26
Examples from New City School Classrooms 27
Personal Intelligences Get Special Attention 31

Multiple Intelligences and Assessment 35
Using Portfolios 37
Standardized Tests 39

Educating Parents About Multiple Intelligences 42

The Importance of Collegiality in Implementing an MI Philosophy 50

References 53

Beliefs About the Nature of Intelligence

For almost a century our beliefs about the nature of intelligence have been dominated by a definition that is based on standardized tests and IQ scores. Intelligence has come to be represented by a two- or three-digit number. This number, obtained by taking a paper-and-pencil test, does not change very much over time. The student who has a high number probably will excel in school. The student with a low number likely will find that school is an experience to be endured, perhaps with success if the student is lucky.

The operational definition of intelligence also spills onto achievement tests. Students of all ages spend hours reading sentences or calculating equations and filling in small bubbles on paper. Resulting scores indicate whether a student is working at, above, or below grade level. For all practical purposes, the format and uses of intelligence (or aptitude) tests and achievement tests are indistinguishable.

Most educators now decry this narrow definition of intelligence, but even a cursory look at our education

system shows that it is still pervasive. School districts are applauded or castigated on the basis of standardized test results that are printed in local newspapers. Property values rise and fall because of this narrow definition of excellence. In large part, school districts base admission to gifted and talented programs on IQ scores. Colleges and universities place great weight on SAT or ACT scores when determining whom to accept — and whom to reject.

To understand where we must go in defining intelligence, it may be useful to review where we have been. Our use of paper-and-pencil measures of intelligence can be traced back to Alfred Binet, an educator working in Paris in the early 1900s. The construct of Intelligence Quotient (IQ) was invented by Binet in an attempt to identify which students would and would not do well in school. As is the case today, low cost, ease of administration, and reliability — Would a student's score remain the same over time? — were important factors in intelligence test construction and use.

Binet decided to define "normal" as those abilities that were held in common by 65% to 75% of the students. He established a mean score of 100 and constructed his test so that the average Parisian student would achieve that score. Questions that were too easy (those that produced too high a score) were thrown out, as were those items that proved to be too difficult (and produced too low a score). The questions that were kept produced a distribution of intelligence that matched the bell-shaped curve: About 68% of the students scored within one standard deviation of the mean; two standard devia-

tions above the mean resulted in a score of 130 and two standard deviations below the mean resulted in a score of 70.

Virtually all standardized tests in use today operate on the assumptions Binet used at the turn of the century, that intelligence is one-dimensional, finite, and can be measured reliably and validly by paper-and-pencil tests.

However, as James Fallows says in *More Like Us*, there is no reason to assume that intelligence is distributed along a bell-shaped curve just because tests have been constructed to yield that array. Although this reliable model of testing has become commonplace and is easily understood, that does not mean it is valid. Indeed, in addition to the shortcomings related to how intelligence is measured, traditional intelligence tests also have focused far too narrowly on what defines intelligence. Certainly, skills in language and mathematical calculation are important in both school and work; but standardized tests focus almost exclusively on these two areas, ignoring many other areas of talent. We all know individuals who did not "test well" but have been extraordinarily successful in school and life. For these individuals in particular, but for all of us in varying degrees, standardized tests only begin to tap the range of abilities that we possess.

The Theory of Multiple Intelligences (MI)

In general, intelligence typically has been defined in terms of the ability to solve problems, as indicated by

proficiency in linguistic or logical-mathematical areas of study. The vision of intelligence that Howard Gardner used in creating the theory of multiple intelligences refined and extended that definition by giving it both a pluralistic and a pragmatic focus. (See also fastback 342 *Teaching for Multiple Intelligences*, by David Lazear.)

Gardner defines intelligence as solving a problem or creating a product that is valued in a culture. This perspective expands the definition of intelligence to include such abilities as creating a song, a sculpture, or a dance or leading a group down a river on a whitewater raft or up a hill in a revolutionary charge. It refines the definition by pointing out the relationship between intelligence and culture, noting that the value we attribute to any type of intelligence is culture-specific.

Western culture today, for example, seems to place little value on bodily-kinesthetic intelligence (other than for a relatively small number of highly paid, professional athletes). In past centuries, however, our culture placed a much higher premium on bodily-kinesthetic intelligence, because day-to-day survival and comfort depended on the ability to use this intelligence to defend oneself and one's possessions. Early men and women lived without electricity, telephones, and automobiles; they had to chop wood, to walk or ride a horse, and to plow their fields by hand or with primitive implements — all of which required specific physical skills.

First described by Howard Gardner in *Frames Of Mind* (1983), the theory of MI says that there are at least seven different intelligences. Gardner points out that the term "talents" also could be used to describe this range of

abilities. Regardless of the term, the seven intelligences should not be viewed as a hierarchy.

Gardner's seven intelligences are as follows. Each definition is followed by the name of an individual who exemplified that intelligence.

- Linguistic: Sensitivity to the meaning and order of words; poet, translator. Example: T.S. Eliot.
- Logical - Mathematical: The ability to handle chains of reasoning and to recognize patterns and order; mathematician, scientist. Albert Einstein.
- Musical: Sensitivity to pitch, melody, rhythm, and tone; composer, singer. Igor Stravinsky.
- Bodily-kinesthetic: The ability to use the body skillfully and to handle objects adroitly; athlete, dancer, surgeon. Martha Graham.
- Spatial: The ability to perceive the world accurately and to re-create or transform aspects of that world; sculptor, architect, surveyor. Pablo Picasso.
- Interpersonal: The ability to understand people and relationships; politician, salesperson, teacher. Mahatma Gandhi.
- Intrapersonal: Access to one's emotional life as a means to understand oneself and others; therapist, social worker. Sigmund Freud.

Everyone possesses some degree of each of the seven intelligences, but no two individuals have exactly the same configuration. While the intelligences are independent, Gardner notes that the distinctions among them are "useful fictions." In real life many of the intelligences merge when we solve problems or create

products. Excelling in almost any field requires a combination of intelligences. For example, a concert pianist possesses strong musical intelligence, but she also must have sufficient bodily-kinesthetic intelligence to allow her fingers to dance across the keys. As performances in every discipline become increasingly sophisticated and complex, proficiency in more than one intelligence is essential for success.

Gardner first came to the idea of multiple intelligences while working with brain-damaged patients in a Boston hospital. He observed that injuries in different regions of the brain caused patients to lose the ability to perform different functions. From there, he developed a set of criteria against which potential intelligences could be judged. Following are the eight criteria that he used:

1. Potential isolation by brain damage.
2. Existence of idiot savants, prodigies, and other exceptional individuals.
3. An identifiable core set of operations — basic kinds of information-processing operations or mechanisms that deal with one specific kind of input.
4. A distinctive developmental history, along with a definite set of "end-state" performances.
5. An evolutionary history and evolutionary plausibility.
6. Support from experimental and psychological tasks.
7. Support from psychometric findings.
8. Susceptibility to encoding from a symbol system.

Gardner noted that the number of intelligences an individual may possess may not be limited to seven. If one accepts the pluralization of intelligence, then there is no reason to believe that seven is the correct number. (Gardner recently said that perhaps an eighth intelligence is the naturalist intelligence, manifested by "being able to recognize and make sense of the world of plants and animals.")

Understanding What MI Is Not

MI theory sometimes is confused with learning styles or thought to be a curriculum in its own right; it is neither. Learning styles deal with the context in which learning takes place and the approach that a student takes to understanding. For example, some students learn better in silence, while others do best when surrounded by music or productive noise. Some students learn best while lying on the carpet; others prefer sitting in a straight-back chair next to a high-intensity lamp. Some students learn better by proceeding from whole to part; others focus on the details to construct their understandings. (For more about learning styles, see fastback 382 *Strategies for Educating Diverse Learners*, by Rita Dunn.)

As important as it is to consider learning styles — a good classroom should provide a variety of learning contexts — this alone is insufficient. A student who prefers the cacophony of rock music to perform an athletic feat may want a quiet space in which to read a history assignment. Or a student who learns how to

punctuate by memorizing grammar rules may learn the causes of the Civil War more easily by creating a mind map. We cannot assume that a student's learning style will transcend his or her efforts in every intelligence. The notion of designing classrooms and instruction to accommodate students' learning styles has merit, but it is not the same as, or a substitute for, addressing their different intelligences.

Despite the plethora of books offering MI curriculum ideas or lesson plans, multiple intelligences is not a curriculum per se. And because MI is not a set curriculum, each teacher or group of teachers must fashion an approach to multiple intelligences that fits a particular context and set of values. Indeed, one of the major strengths of MI is that it is context-specific, school-specific, and teacher-specific. An MI approach means that different intelligences are recognized and valued, but how that awareness is integrated into the curriculum and into everyday instruction can be distinct in every setting. The MI implementation of the New City School in St. Louis, Missouri, is quite different from that of the Key School approach in Indianapolis, Indiana, which is different from the Finegan School approach in Atlantic Beach, Florida.

Success in School Is Different from Success in Life

Multiple intelligences theory makes sense because the qualities that are necessary to achieve success in school are different from the qualities that are necessary

to achieve success in life. Success in the "real world" requires strength in a variety of intelligences, especially the personal intelligences. The knowledge and skills that are necessary to succeed in school too often are limited to the linguistic and logical-mathematical intelligences.

In many schools, success comes from knowing "stuff" — possessing information without understanding, following directions without question, and working alone. Students who do these things well excel in school. However, in the real world, knowing "stuff" is not nearly as important as being able to identify a problem and pursue its solution or to gain an understanding of a skill or a concept. In the world of work, for example, being able to follow directions is a necessary skill, but being able to succeed in situations where there are no directions is far more important. Also, in the work world, working alone is a rarity; almost all of us interact with others while we work, continually initiating, responding, and negotiating. Most work gets done by formal and informal teams of workers. By contrast, students often not only are expected to work alone but are penalized for collaborating, which is considered "cheating."

Of course, skills in the linguistic and logical-mathematical areas are important, as is skill in taking standardized tests. But the other intelligences play important roles in learning — and in test taking. We use our various intelligences to gain and to share information. And, just as often, we develop intelligences in our pursuit of relaxation or personal growth. All of these help us to learn better and, in turn, to become better test takers and problem solvers.

The intelligences that truly predict success in the world outside the school are the personal intelligences, interpersonal and intrapersonal. Interpersonal intelligence — sensitivity to others — is essential in working cooperatively and assuming leadership. And many observers believe that, even though no hierarchy exists among the intelligences, the intrapersonal intelligence — knowing oneself — is the most important. Regardless of context, if one knows one's own strengths and weaknesses, the chances of succeeding in school or in life are improved.

In conclusion, educators need to recognize that there are many different intelligences and to identify and nurture them in our students. This means neither ignoring the traditional academic areas nor allowing each child to work only in his or her area of strength. It does mean that we should design a curriculum so that all of the intelligences can be used to help children learn. It also means that we should focus particularly on interpersonal and intrapersonal intelligences.

Implementing MI at New City School

The theory of multiple intelligences will be implemented differently in each situation; therefore, no other school will bring MI to life in the same way that the faculty has done at New City School. That said, there are some things that can be learned from the New City School experience.

Regardless of context, three points are important in any MI implementation:

- Put kids first.
- Educate all of the stakeholders.
- Teachers are the key.

Put kids first. The desire to use multiple intelligences theory must be undergirded by a set of assumptions about education and children. Those assumptions at New City School can be stated as follows:

- Who you are is more important than what you know.
- All children have strengths, and it is the responsibility of educators to identify and nurture those strengths.

- The aesthetic arts play an important role in school and life.

While these assumptions are not all-encompassing, I would suggest that they represent a philosophical stance that is wholly compatible with the theory of multiple intelligences. A school that is more interested in a purely "back to basics" approach or one that relies solely on standardized test scores to "sort" students into successful and unsuccessful categories will not be able to implement MI.

One of the strengths of multiple intelligences theory is that it is child-centered. Bringing MI to the classroom means looking differently at student strengths and talents, uncovering potential that may have been displayed only at recess, in specialists' classes, or after school. In using MI, whether at the beginning of planning a unit or while evaluating student progress, New City School teachers routinely look at their students' "intelligence profiles" (even if that term is not used) and try to determine through which intelligences each student learns best. In this way, teachers begin to see which students excel in particular areas and what curriculum adjustments will increase a particular student's success.

Fashioning curriculum and instruction from a belief in MI is in sharp contrast to the more traditional approach, in which a set curriculum is either developed in the central office or lifted from publishers' pages and brought to the classroom. An MI approach means that curriculum and instruction are designed based on students' needs, offering a variety of pathways to learning

18

and understanding. Rather than using the linguistic and logical-mathematical intelligences alone to create an intellectual hierarchy within the classroom, the focus becomes "How can this student succeed?"

As students become successful in the MI classroom, they also build self-confidence and a love for learning. Those characteristics also increase teachers' feelings of success. Teachers become curriculum designers and evaluators, not merely disseminators of information. Classrooms come alive with options and opportunities as kids and teachers learn together. One New City teacher said, "Using MI requires a lot more time for kids to process what they've done, to work on their intrapersonal intelligence. It makes my classroom curriculum more diverse and is more fun to work with."

Educate all of the stakeholders. In almost all cases, the MI classroom will be very different from the classrooms in which the parents of today's students sat. Parents may remember rows of desks, which have given way to collaborative work in centers and work stations. While letter grades, percentages, and report cards may still have their place, they now will be supplemented by teacher narratives, parent-teacher intake conferences, student reflection sheets, and portfolios.

These differences cannot be ignored. It is the educator's job to educate all of the stakeholders — students, parents, community members, and the board of education — about the advantages of MI. Unless this is done, curriculum differences may be seen as weaknesses; and a lack of understanding can result in teachers being

pressured to return to a more traditional approach to education.

Stakeholder education cannot be left to chance. Like all other important strategies, it must be planned carefully. At New City, we developed several strategies that are helpful in this effort. First, we consciously teach MI theory, as developmentally appropriate, to all of our students each September. An important benefit of using MI theory is helping the children understand their own intelligence profiles so that they can strengthen their intrapersonal intelligence. To accomplish this, students need to understand the different intelligences and their implications. Beyond helping students, of course, having the theory of MI as a September topic for all classes means that parents also will learn about MI.

Second, we talk to parents directly about MI. A few years ago I asked a faculty committee, "Because we believe in MI, how should we communicate differently with our students' parents?" After much discussion, we agreed that teachers would benefit from knowing what their students do during the evenings and on weekends. After all, these often are the times when children display their interests in "other" intelligences (read "non-school," in the traditional sense), such as taking a karate class, singing in a choir, painting, or playing a leadership role in a scout group. Therefore, we transformed our first parent-teacher conference (previously held in November to correspond with the issuing of report cards) into an "intake conference," held during the last week of September.

The intake conference helps us get to know our students and their families early in the school year and

enables us to educate parents about our instructional approaches and our rationales. At New City School we send a letter to parents before the intake conference, suggesting topics and issues that they may wish to discuss.

We also scheduled the intake conference early in the year so that parents would have to take the leadership role in sharing information. At an intake conference, parents are expected to do 75% to 80% of the talking. Parents are the experts and teachers are the listeners. Following are some typical questions that teachers ask parents during the intake conference:

- How does your child view school?
- What are your goals for your child this year?
- What is your child's activity schedule away from school?
- How do you deal with homework? Do you help your child with it, or do you check to make sure it is finished?
- What is your family routine at home? Tell me about how the family spends its evenings.
- How does your child solve problems at home?

We also ask questions that elicit information about diversity issues, such as:

What holidays does your family celebrate? Will any of these family celebrations affect your child's activities at school?

Would you share with me a bit about your family's heritage?

Has your child seen family members in situations in which they were discriminated against?

Have you talked about skin color differences with your child? If so, how did you approach this?

What are some of the ways that your family has worked to help your child appreciate racial or ethnic differences?

In some cases, we ask parents to discuss how they see their own intelligence profiles. Asking parents to talk about the intelligences in which they, personally, feel strongest is a good way to help them feel comfortable and to educate or reinforce the value of the MI model.

Some teachers use an "MI Profile" checklist (similar to the one they use for their students) and ask parents to respond to their own success areas. Figure 1 illustrates a version of this profile.

Figure 1. Multiple Intelligences Profile.

Key:

Appreciates or enjoys activities associated with this intelligence.
Performs activities using this intelligence.
Creates original works or initiates activities using this intelligence.
Innovates by applying this intelligence to unusual situations or by developing unique solutions to problems.
Limited **I**nterest in this intelligence.

Circle one response for each intelligence:

Bodily-Kinesthetic	A	P	C	I	LI
Interpersonal	A	P	C	I	LI
Intrapersonal	A	P	C	I	LI
Linguistic	A	P	C	I	LI
Logical-Mathematical	A	P	C	I	LI
Musical	A	P	C	I	LI
Spatial	A	P	C	I	LI

During the period when intake conferences are being held, the school hallways offer another opportunity to educate stakeholders. We hang decorations and displays not only to entertain passing parents but also to inform them. Parents and students entering our front door are greeted with a huge display, "We All Have Many Intelligences," that shows definitions of intelligences and pictures of famous individuals who have excelled through their particular intelligence strengths. A bulletin board features photos of staff members, each one framed with an indication of that person's strength areas.

Throughout the year, in my weekly letter to parents, I often refer to MI or cite articles that discuss how success in the world requires more than just skill at reading or writing. Similarly, teachers make a point of bringing MI into their weekly letters to their students' parents.

MI theory also is prominent in our school newsletters and our holiday performances. One recent intermediate-grade student performance, written by the sixth-grade students, followed a prince and princess engaging in a series of trials and tribulations while trying to recover the seven magic vases that had been stolen from the king. Each of the vases contained an intelligence. As each was found, the prince and princess gained a new strength (a new intelligence) to use in continuing the search. The play concluded with the students sharing their linguistic, spatial, musical, logical-mathematical, and bodily-kinesthetic intelligences with the audience. The audience, mostly parents and grandparents of our students, was entertained, and they also learned about MI.

Teachers are the key. The implementation of a multiple intelligences philosophy will be successful only if teachers are well-trained in and committed to MI. Teachers cannot simply be told to "do MI." They must realize, first, that MI theory is an effective undergirding for instruction and, second, that MI also can enhance their professional development.

If a school is to implement the MI philosophy effectively, then teachers must be a part of that process from the very beginning. They should be involved in learning about MI, considering its value as a curricular and instructional philosophy, and determining how to go about integrating MI theory into the day-to-day working of the school.

We found that it was valuable to create an ad hoc committee to investigate the potential of MI and to structure faculty study groups to read a variety of supportive books, such as *Frames of Mind, Celebrating Multiple Intelligences: Teaching for Success,* and *In Their Own Way.* We also sent groups of teachers to conferences and workshops on multiple intelligences. In short, we tried to explore many avenues for helping teachers learn about MI theory and how it might be woven into the fabric of their teaching.

MI in the Classrooms

Just as there is no one, right way to implement MI, there is no one model for an "MI classroom." But there are several characteristics that are common to classrooms grounded in multiple intelligences theory. For example, teachers in such classrooms are likely to make extensive use of learning centers and activity stations, small-group discussions, and alternative assessment practices.

Most MI-based classrooms also provide visual cues, such as posters illustrating the seven intelligences. These graphic devices serve to remind both teachers and students that more is at work in learning than merely linguistic and logical-mathematical intelligences. At New City School, many teachers ask students to design the posters.

Perhaps the most effective way that we have found to initiate an awareness of MI across the board at New City School is to begin the school year with a focus on MI. We do this by direct teaching about MI in every classroom each September. In this way, teachers help their students begin to understand and to recognize their own strengths, which sets a positive tone for the year to

25

come. Early direct teaching also helps parents understand MI theory from the start of the school year.

At New City School, many teachers ask students to graph how family members view their intelligences (for example, in which area most family members and friends perceive themselves to strongest, in which area they think themselves to be weakest, which intelligences they use most frequently at work, and so on). One New City teacher asks students to create "MI portraits," scenes in which the students depict themselves engaged in each of the intelligences. These scenes are posted in the classroom or hallway. Some teachers also begin the year with an "MI Week." During this week new classroom activity centers, corresponding to each of the intelligences, are introduced daily. Some classes also study the human brain, and one class even invites a physician to visit their classroom and to demonstrate the dissection of a cow's brain.

Integrating MI into Typical Lessons

The central question that teachers must ask in order to integrate MI theory into their lessons is, How can I incorporate a variety of intelligences so that all students have an opportunity to learn through their strengths?

As teachers plan lessons, they should refer to a list of the intelligences to ensure that they are bringing in as many of the intelligences as possible. This does not mean that all intelligences should be included in every lesson; that is simply not a realistic expectation, nor should it be.

Another way to bring MI theory into typical lessons is to create learning centers, each of which specifically addresses one (or more) of the intelligences. Students are then given opportunities to choose among the centers, or they may be required to cycle through all of the centers, thereby engaging in all of the intelligences. Because a centers approach does not require as much curricular integration as bringing the intelligences into each lesson, it often is considered easier to implement. For busy teachers, that factor is an important consideration. And teachers who have limited experience with MI may find the centers approach a good way to begin.

However, the centers approach does require teachers to monitor how the centers are used. Which students are most successful in which centers? To which centers do students go most often? Observing students and answering these questions not only helps teachers to better understand the strengths of their individual students but also gives teachers cues to improving their learning centers and their other lessons.

Examples from New City School Classrooms

Following are some ways that teachers at New City School have integrated MI into their lessons.

1. A primary teacher who reads *The Popcorn Book* to her students incorporates all of the intelligences in her unit in interesting ways. For example, she has her students use popcorn kernels and various tubes and containers to create musical, rhythm instruments.

To bring in the logical-mathematical intelligence, she pops corn once with the lid on and once with the lid off

the pan. Prior to popping the corn with the lid off, she asks her students to predict how far the kernels will fly. Where the kernels land is recorded and measured, and the information is used to make bar graphs.

To address spatial intelligence, the children glue kernels to paper to create pictures showing their favorite part of the story. Children use their bodily-kinesthetic intelligence by physically portraying the act of popcorn popping: Some are the pan, some are handles, and some are the kernels, unfolding and exploding as the temperature rises — all while the teacher reads the story.

2. An intermediate teacher teaches spelling by giving students options for learning their weekly words. Some students memorize the words linguistically, while others learn spatially by drawing pictures of the words or making decorations of the word or its letters. Still other students drum the letters or syllables with their fingers, creating a "tune" with their musical intelligence. Some students use their bodily-kinesthetic intelligence to learn by making letters in sand or salt or tracing the words on the sidewalk or a friend's back.

3. A primary teacher working on word families teaches the "ag" rule by taking the kids outside to play "rag-tag." When a child is tagged, he or she must correctly spell a word from the "ag" word family in order to be set free to pursue another child.

4. An intermediate teacher uses rhythm instruments to help her class understand fractions. Six students form a small circle, each with a different instrument, while the rest of the children sit around them. The audience members close their eyes, and the teacher holds a sign

showing a fraction to the small group: ¼, ⅓, ½. A corresponding proportion of the small group then makes noise using their drums, tambourines, or shakers. The audience identifies the fraction based on how many of the group are making noise.

5. A kindergarten teacher uses bodily-kinesthetic intelligence to teach numbers and number sequence by having large numbers taped to the floor. The children then jump and play leapfrog along the number line, counting aloud as they move. In this manner, they learn to count by one's and two's.

6. A primary teacher plays recordings of several kinds of Native American music and music on Western themes by such artists as Garth Brooks. The students talk about the differences in the music and relate the music to their history lessons.

7. An intermediate teacher rewards her class by distributing piles of popcorn to each student in all of the four-member teams in her class, but she purposefully gives each member of the group a different amount of popcorn. When the students protest, she introduces the idea of collaboration and tells the group to devise a way of working out the problem cooperatively. The teacher reports, "Initially, they often say, 'I don't care,' because that's an easy way out; it's the only way they know to deal with this kind of problem. Then they typically move to a system of coin flips or rock-paper-scissors to decide. While this is better, they haven't begun to use the personal intelligences. Finally, after debriefing as a class and talking about what was accomplished, they begin to discuss and problem-solve together."

8. A primary teacher assesses her students' understanding of the life cycles of the frog by having the children create and perform a frog ballet. Students are taught a few simple ballet moves to use in creating a dance accompanied by music of their choice. They dance in order to explain the growth and development of frogs. The teacher videotapes the students, and later the students critique their performance as a step in increasing intrapersonal intelligence.

9. An intermediate teacher helps students learn about the 50 states by creating a bulletin board with a number of activities listed under each of the seven intelligences. Students proceed through all of the activities, thereby using each intelligence several times. For example, they create a handclap jingle to recognize the spelling of state names, and they complete a word search and a crossword puzzle. They also work in teams to form the shapes of the 50 states, and the teacher photographs them as they complete each state. (The photos are put in the students' portfolios.)

The students work individually and in groups throughout the lesson. They also develop illustrated journals that tell (and show) their imaginary journeys through the states. And they make fact flash cards and, in some cases, create computer games for other students to use in learning about the states.

10. A primary teacher teaches the rules of the school and classroom by having her students draw a floor plan of the school. Then the students identify potential "trouble spots," where they are prone to forget the rules. In this way, the teacher and the students work together to plan for proper behavior.

11. An intermediate teacher makes extensive use of Venn diagrams to facilitate and capture student thinking. In reporting on books they have read, students create a Venn diagram to look at characteristics of the characters and to compare them with themselves. A Venn diagram is used at the conclusion of a unit on the Civil War; students are given a host of terms (for example, cotton, states' rights, land, freedom, control of rivers) and asked to classify these items as needs, wants, or values. The use of Venn diagrams is a good, and fairly easy, way to incorporate the logical-mathematical intelligence in learning curriculum that usually emphasizes other types of intelligence.

Personal Intelligences Get Special Attention

At New City School we believe that teachers need to give special attention to the development of their students' intrapersonal and interpersonal intelligences. These are the intelligences concerned with affective growth and development, and students' self-awareness of strengths and weaknesses can make the difference between success and mediocrity.

Intrapersonal intelligence, because it is self-knowledge, often is the hardest to work on directly. Acumen in other intelligences can be displayed and viewed directly, but the presence of a strong (or weak) intrapersonal intelligence must be inferred. That does not mean that intrapersonal intelligence is impossible for teachers to address, rather that they must be more creative in their pursuit of it.

31

We have found that providing time for students to reflect on learning is an effective way to address intrapersonal intelligence. Regularly taking the time to have students think about their role and their effectiveness and to receive feedback from others is necessary. Because of the intertwined nature of the intrapersonal and interpersonal intelligences, focusing on one's interpersonal intelligence also benefits one's understanding of intrapersonal intelligence.

Many teachers videotape their students to help them gain self-knowledge. For example, a primary teacher videotapes her students performing a play. Immediately after the play, the students rate themselves by filling in the blanks on a simple form:

I was good at _____.
_____ was hard for me.
Next time I need to be better at _____.

Next, the students watch themselves on the videotape. After watching the tape, the teacher then asks each student to assess his or her performance again. Over time, the students become more accurate at reflecting on and realistically judging their performance, which is a way of increasing their intrapersonal intelligence.

Several teachers ask their students to self-evaluate prior to the distribution of report cards. These teachers distribute blank copies of the report cards and ask their students to complete them based on how they think they will be evaluated by the teacher. Then the teacher meets with each individual student to review the "official" re-

32

port card compared to the student's card. These discussions help students gain a clearer sense of themselves.

An intermediate teacher uses "reflection stems" to help her students reflect on their interpersonal intelligence. For example, after working as part of a team, students may be given a sheet of sentence beginnings, or stems, that require the students to think about their interpersonal relations. Following are several sample reflection stems:

Working with my group was _____.
The role I played in this group activity was _____.
Three ways that I contributed to my group were _____.
A time that it was difficult for my group to work was _____.
I found it difficult to work with my group when _____.
If we could do it over again, I would _____.

Sometimes the students reflect on these questions individually, while at other times they may discuss their responses with the group or simply share them with the teacher in a one-on-one conversation.

Another teacher uses a "self and other" form to help students understand how their self-perceptions might be different from how they are seen by their peers. After working in a group, all of the members in the group complete a rating scale on themselves and on one another. The teacher compiles the ratings and shares them with the students during a follow-up discussion. The "self and other" statements are rated as "always," "sometimes," and "never" and include the following:

33

Listened to others.
Offered ideas to complete the job.
Used active listening.
Focused attention on the job.
Said "no" to the ideas of others.
Gave in to others.

At first, this teacher reports, the students have difficulty accepting the fact that others may view them differently than they see themselves. But in time, they learn to accept how others see them and, as a result, often modify their behaviors.

One intermediate class ends the year with a two-month unit in which the students create a multi-chapter autobiography. In addition to capturing the events of their lives linguistically and spatially (through drawings, photographs, and artifacts), the students focus on how they were feeling and how they were perceived at various times in their lives. To gather this information, the students interview family members or friends. Moving the students beyond merely recounting family events and transitions by encouraging them to reflect in this way contributes to the development of their intrapersonal intelligence.

Multiple Intelligences and Assessment

It is a truism that what we measure is what we value, regardless of rhetoric to the contrary. Therefore, teachers must examine how they assess student learning in order to ensure that such assessment includes all of the intelligences.

Scoring well on standardized tests is important; but to the degree that this goal results in teachers focusing inordinately on recall of facts, regurgitation of information, and learning how to fill in bubbles on answer sheets, students lose out. Likewise, when report cards emphasize only the linguistic and logical-mathematical intelligences — when the teacher's thoughts about what kind of person a child is are reduced to "works well with others" — students also lose out. And the message to parents is self-limiting.

At New City School, we begin our Progress Report (report card) by addressing the personal intelligences, by rating a child's interpersonal and intrapersonal growth, which not only ensures that we focus on what is most important but also serves as a way to remind parents of what we value. Even at a progressive school

such as New City, parents of kindergartners have talked to me about wanting — no, expecting — their children to attend Harvard University. And so, there always is pressure to demonstrate the importance and validity of assessing beyond the linguistic and logical-mathematical intelligences.

From the starting point of the personal intelligences and linguistic and logical-mathematical intelligences, we move on to address the other intelligences. However, assessment of these other intelligences is not always easy. Many of these intelligences are not readily measured by paper-and-pencil tests. Indeed, the relative ease and reliability with which the traditional, linguistic and logical-mathematical, intelligences are measured is one of the reasons that educators rely on them so heavily.

In assessing the other intelligences, we need to remember that while we can measure them with validity, it may be difficult to attain as high a degree of reliability. Increasing the reliability of qualitative measures is not impossible. After all, trained judges can attain a high degree of reliability in evaluating figure skating and high diving. Obtaining reliability of qualitative measures is important because assessments need to be meaningful, but it is not necessary to attain the same degree of reliability as with quantitative data. And we should not let the fact that other measures are not as reliable as standardized tests prevent us from using them.

Teachers can, do, and should make judgments about children's progress in the other intelligences. Indeed, the more that authentic problems are used, the more that children will develop effective problem-solving strategies

that carry over to problems outside the classroom. Therefore, as we think about assessing all of the intelligences, it is important to use "intelligence-fair" tests, assessments that enable a child to *use* the intelligence(s) in which he or she is being tested. Assessing a child's progress in the spatial or bodily-kinesthetic intelligences, for example, should be done by observing the child as he or she actually uses these particular intelligences.

This is one form of authentic or alternative assessment, which can be used on a continual basis. Teachers who rely on alternative forms of assessment, such as observation, will find that they spend much of their time "kidwatching" with clipboard in hand to record their observations. In this manner they can capture performances in anecdotal form, gradually compiling a record that can be analyzed to reveal how a given student processes information and uses various intelligences and where the student's strengths lie.

Such anecdotal information also is valuable in talking to students, other teachers, and parents about student performance and achievement. And this information is incorporated into the narratives that are part of the formal Progress Reports.

Using Portfolios

Portfolios are another important tool in capturing MI. At New City School each student has a *cumulative portfolio* that moves with him or her from grade to grade. Each student keeps a *working portfolio* during the year, which is culled each May for artifacts that are to be

accumulated in the cumulative, or permanent, portfolio. Although portfolios are, by definition, unique collections of a child's work, we have decided that certain items must go into each child's portfolio annually. These items include: a self-portrait, an autobiography, an audiotape selection, and a videotape selection of the child. (The students' portfolios each contain audio- and videotapes on which new segments are recorded each year.) Another requirement is that each of the intelligences must be represented by an artifact each year. (See fastback 341 *The Portfolio Approach to Assessment*, by Emily Grady.)

Recordkeeping is an important part of using portfolios. We have found that it is helpful to attach a small information sheet to each item that goes into the portfolio. This sheet indicates when the item was placed in the portfolio and why it was included (best work? first experience? a milestone?). The sheet also indicates who made the decision to include the artifact — student, teacher, or both. We also have found that it is helpful to place on the portfolio cover a summary sheet that lists the items in the portfolio and a check-off of the intelligence(s) that are represented in each artifact. Both of these sheets help teachers to know at a glance whether the portfolio is representative of the student's work or whether additional artifacts should be gathered for a more complete picture.

Some intelligences are best portrayed by capturing performances on tape, particularly videotape. Both still photographs and videotapes play an important part in the portfolios. For this reason, we have invested in video

38

cameras and a tape-editing machine at New City School. Teachers are encouraged to make frequent use of this equipment, and students are given many opportunities to view and hear themselves and to reflect on their performances. Often, their reflections are recorded as self-assessments or journal entries that also become artifacts in the portfolio.

Each spring we hold a Portfolio Night. Parents accompany their children to school, and the children display and review their portfolios with their parents, sharing their reasons for including items and what they have learned about themselves. When the children graduate from the sixth grade or leave the school, their portfolios are given to their parents.

As technology becomes more pervasive, the computer portfolio is a new record and assessment mode that is beginning to play a more prominent role in capturing MI. The Grady Profile, for example, piloted at New City School, enables teachers to record all of a child's intelligences on a diskette. Teachers use their Macintosh computers to record students' progress in text, video images, and sound. The diskette is passed from teacher to teacher each year, and the child's progress can be recorded in a very manageable way.

Standardized Tests

Regardless of the limitations of standardized tests, it is important that children perform well on them, because the tests continue to be the "gateways" to many educational opportunities. We know that success on

standardized tests requires not only knowledge of subject matter but also test-taking skills. Therefore, we work with our students on how to take standardized tests. We cover basic, important strategies, such as budgeting time, eliminating obviously incorrect responses, making sure the number of the "bubble" on the answer sheet corresponds to the number of the question being asked, and checking one's work.

But we also look to intelligences beyond the linguistic and logical-mathematical to assist students in dealing successfully with standardized tests. For example, we want students to use their intrapersonal intelligence to help them improve their scores. After the tests are administered, teachers sometimes direct students to write a letter to themselves, reflecting on what they learned about test-taking, such as strategies that were helpful and things to remember on future tests. One teacher who uses this assignment collects the letters and keeps them for eleven months, mailing them to the students' homes almost a year later, as the students are preparing for their standardized tests in the following grade. Other teachers ask their students simply to discuss test-taking strategies in groups and to share the things they do to prepare for success.

Because the dictum of "what we measure is what we value" is so strong, it is essential that our assessments reflect our true value system. While we cannot ignore state testing mandates or the demands for standardized tests by other institutions, we can prevent these limited measures from limiting our curriculum and our view of what is important in learning. By focusing on the di-

versity of MI, we mirror our instructional priorities in ways that are meaningful for students, teachers, and parents.

41

Educating Parents About Multiple Intelligences

Multiple intelligences theory is new for many educators, but it is even newer — and often foreign — for parents. Trust comes from understanding, and so parents must understand MI in order to have confidence that teachers and the school in general are educating their children in the best possible manner.

Many parents are unfamiliar with portfolios, exhibits, projects, and so on. They often have not had personal school experiences that asked them to work collaboratively, to reflect on their own learning, or to assess their own performances. While many parents find these activities interesting and even intriguing, often simply because they *are* different from their own school experiences, they likely will be more supportive if they understand why such things are important. Indeed, without such understanding, they can be only limited partners in the learning enterprise with their children.

Some parents also are rightly concerned that their students not be used as "guinea pigs" in some educational experiment. A few remember only too well the hoopla over "New Math," which proved to be a failure for most students. Therefore, it behooves us to take some pains to make MI theory prominent in home-school communication and to ensure that parents understand what multiple intelligences theory is and why we believe it is the best way to approach instruction for their children. Following are some ways that we at New City School have approached this task.

Back-to-School Night. At the start of every school year, we hold a traditional back-to-school information evening for parents. At this gathering, I often begin by asking parents to think of people they know who are successful and the people who were the most "intelligent" in their high school graduation classes. This leads to a wonderful discussion about how the qualities that determine success in life are quite different from the qualities that led someone to be named the high school valedictorian.

Reading and writing and calculating are important, I point out, but they are only a beginning. I explain that, as educators, our job is to prepare their children to succeed not just in school but in life. That means we must focus on the personal intelligences. As I then explain these and the other intelligences and why they are so valuable, I often see the majority of parents nodding their heads in agreement because they recognize the skills I am describing as being essential to success in their own work environments.

Letting the Walls Talk. Of course, the back-to-school program is just a starting point. Educating parents needs to be an ongoing effort, and it cannot be the responsibility of one person.

At New City School, we have found that the classroom and corridor walls can talk. They should entertain and inform. Moreover, what is displayed reflects our values. Thus, right inside the front door of the school, we hang a huge poster that says, "We All Have Many Intelligences." And our halls are decorated with student work that reflects all of the intelligences. While linguistic and logical-mathematical pieces are displayed, so are student achievements in the other intelligences. Spatial T-shirt book reports are hung next to a bar graph that shows what kind of food that the skin colors of children in a classroom resemble. Three-dimensional models of Native American villages stand alongside mathematical patterns.

Audiotapes of students singing often greet both students and parents who enter the building in the morning. Puzzles and riddles on a table outside a classroom encourage families to linger and solve problems together. Students' written stories tell about a time when they have felt sad or have helped another. Drawings or photos of kids engaged in bodily-kinesthetic activities complement a bulletin board, on which children and parents are asked to react to famous works of art.

Open-House Opportunities. We also use open houses as parent education nights. After parents have heard me talk in the school auditorium about success and MI, they go to their children's classrooms to hear the teachers ex-

plain their programs. Years ago we realized that we should apply the same principles to educating our parents that we do to educating their children: learning should be experiential, fun, and use as many of the intelligences as possible. As a result, when teachers present their program to the parents, they begin with a brief overview of their curriculum. After that, however, parents often are given the actual tasks and activities that their children experience during the school day. It is not uncommon to find parents sitting on the floor, working together to solve a puzzle or participating in a discussion about whether personal responsibility in the classroom is different from or similar to such responsibility in the larger society.

Specialists' open houses also are valuable. The typical open house often does not allow time for parents to meet with various specialists, and so parents may be led to conclude that the "regular" teacher is the most important and specialists are of lesser value. To counter this perception, we schedule specialists' open houses so that parents can spend time learning about art, music, physical education, performing arts, and so on.

On this evening, parents move from one specialty area to another, from library to lab, from gym to studio. As at other open houses, however, the central emphasis is incorporating all the intelligences. At New City School, we have found that parents are eager participants in the specialists' open houses.

Portfolio Night. Portfolios are a natural way to capture children's growth in all of the intelligences. And

45

Portfolio Night, which I mentioned previously, is a good opportunity to share this important tool — in addition to the portfolio contents — with parents.

Teachers assign one-third of their class to come at 30-minute intervals so there will not be too many families present at any one time. The teacher's role is to facilitate the evening, moving around to encourage and support the dialogue that takes place between parents and their children. Signs posted in the classrooms suggest starter questions for parents: "Tell me why this is in your portfolio," "What do you think of when you see this piece?" and "How have you grown since you did this?" Coming face to face with how the child's work has changed, evolved, since the beginning of the school year — and, in the case of the cumulative portfolio, since the child started school — is a powerful experience for both students and parents. Televisions and videoplayers also are on hand so that parents can play the videos that their children have made.

Letters Home. Every Friday each classroom teacher and I send letters home. That way, all parents receive at least two letters (more if they have more than one child in our school) that summarize what has gone on during the week and alert them to upcoming events. These letters also are opportunities for teachers and me to talk about MI and how using multiple intelligences benefits their child. The teachers focus on classroom activities, while I address more general school activities.

Parent Surveys. While many schools do a good job of communicating *to* parents, most struggle to do a better

job of hearing *from* parents. One way that we have found to learn what interests parents is to survey parents periodically. We survey all parents after the first round of parent-teacher conferences, for example. We ask whether they felt welcome, whether the teacher did a good job of communicating the curriculum, whether they came away with an understanding of their child's strengths and needs, and whether they made plans with the teacher to use strategies at home that would help their students be more successful at school.

Each spring we conduct a survey that reviews the year. One section of this survey asks parents to "strongly agree," "agree," "disagree," or "strongly disagree" with four statements:

- Communication from school to home has been good.
- The director of the school has been approachable and supportive.
- I feel well-informed about New City School.
- My child's individual needs have been met this year.

Another section of the survey asks the following questions:

- What thoughts do you have about our specialists' programs (art, performing arts, physical education, science, and library)?
- What do you see as New City School's main weakness?
- What do you see as New City School's main strength?

- What thoughts do you have about our work with MI and portfolios?
- If you could change one thing about New City School, what would it be?

We rely a great deal on parent surveys to help us understand how our parents feel about issues and to guide aspects of our programs.

Tapping the Community. Inviting parents and community members to come to school to share their expertise not only helps students learn but also builds support for the school within the community. We try to tap into our parents' and friends' talents. For example, we recently had parents who visited classrooms to dissect a frog, teach juggling, talk about how Hanukkah is celebrated, recount being a participant at the U.N. Women's Conference in China, and share what it was like to be part of the Million Man March in Washington, D.C.

Neighbors and friends also shared their expertise, too. Cast members from the musical *Cats* demonstrated dance techniques, a stockbroker explained how financial markets work, a disabled individual talked about being wheelchair-bound, female soccer players from a local university presented a soccer clinic, a jazz group demonstrated how they create new music, an artist helped students do brass rubbings, and a survivor of a Nazi concentration camp talked about her life. Each of these experiences broadened our students' horizons and helped them learn. Moreover, each visit helped support one or more of the intelligences. And each of the

48

visitors left New City School with a better understanding of what we are trying to do — and how MI helps kids learn.

Graduation. Graduating from sixth grade is the culminating New City experience. Every child receives a diploma, and every child receives an individual award. The awards, announced at the ceremony, often are related to the intelligences, reinforcing the concept of MI for the students, their parents, members of the board of directors, and children in the younger grades who attend the ceremony. In short, graduation is a good occasion to remind everyone why we use MI theory at New City School.

49

The Importance of Collegiality in Implementing an MI Philosophy

In *Improving Schools from Within* (1990), Roland Barth says that if students are to grow and learn, then faculty members must grow and learn as well. This means that the most important factor in determining the success of a school is the nature and quality of the adult relationships within that school. Teachers do not operate best in isolation; they work best when they work as colleagues, learning from one another as part of a team.

Collegiality must be distinguished from congeniality — that is, teachers getting along with one another. Congeniality is important and necessary, but it is not a sufficient characteristic for educational success or school improvement. Barth suggests that collegiality means that teachers do four things: They talk together about student growth, develop curriculum together, observe one another teach, and teach one another. At New City School, we believe in the power of collegiality and find

that working with MI is a great way for the faculty to learn and grow together.

For example, as we began to investigate MI, we talked about particular students, looking at how they excelled in different intelligences. The MI vocabulary serves as a shorthand to help teachers capture kids' strengths and weaknesses. "Oh, she does really well spatially, that's a strength of hers," one teacher might say, and everyone understands in the context of MI. Thus, as teachers develop units and lessons, they share how real students perform on the various tasks with an eye for all the intelligences.

Because MI theory is not an education program per se, teachers must develop their own curricula. This means sharing ideas, working as colleagues, and learning from one another. Because teachers, like kids, have different intelligence profiles, sharing ideas and developing curriculum together also capitalizes on the different strengths found among the faculty.

We also encourage our teachers to observe one another. If necessary, we provide substitute teachers to cover the classes of teachers who are observing. Our experience is that teachers not only enjoy seeing how others are bringing MI into classrooms, they come away with new ideas and inspiration.

Finally, we also began consciously teaching one another when we read *Frames of Mind* together. We knew that the best way to learn something is to teach it; so in planning how to familiarize ourselves with Gardner's work, we decided that we each would take responsibility for teaching a chapter, an intelligence, to the rest of the committee. Since then, teachers have taught sam-

ple lessons to others, for example, showing how they incorporate the musical intelligence.

Teaching one another occurs in many forms. Our teachers are required to serve on at least one faculty committee each year. We do this because it is primarily through our committee work that we develop our relationships and faculty knowledge base. Currently we have four faculty committees: the diversity committee, MI communications committee, portfolio committee, and technology committee. As the committees study important and complex questions (Can portfolios capture how students think? How can we assess and report on genuine understanding?), teachers take responsibility for teaching and facilitating one another's growth.

As important as MI can be to kids, it is even more important that a faculty work together as learners and as colleagues. For us, our use of multiple intelligences has facilitated and supported that collegial relationship and growth.

The implementation of multiple intelligences is not a panacea, but it has remarkable potential for helping educators identify and develop their students' strengths. MI theory helps us look at the world — and our classrooms — differently. As a result, we engage in behaviors that put the teacher in the role of being a curriculum developer and student assessor. By definition, MI is student-centered. Students benefit from our use of MI, but that is only the beginning. Teachers who use MI gain as well. They may work harder, but they will derive a stronger sense of satisfaction from their work.

References

Barth, R. *Improving Schools from Within*. San Francisco: Jossey-Bass, 1990.

Fallows, J. *More Like Us*. Boston: Houghton Mifflin, 1989.

Gardner, H. *Frames of Mind*. New York: Basic Books, 1983.

Gardner, H. (1991). *The Unschooled Mind*. New York: Basic Books, 1991.

Gardner, H. *Creating Minds*. New York: Basic Books, 1993.

Gardner, H. *Leading Minds*. New York: Basic Books, 1995.

Phi Delta Kappa Fastbacks

Two annual series, published each spring and fall, offer fastbacks on a wide range of educational topics. Each fastback is intended to be a focused, authoritative treatment of a topic of current interest to educators and other readers. Several hundred fastbacks have been published since the program began in 1972, many of which are still in print. Among the topics are:

Administration
Adult Education
The Arts
At-Risk Students
Careers
Censorship
Community Involvement
Computers
Curriculum
Decision Making
Dropout Prevention
Foreign Study
Gifted and Talented
Legal Issues
Mainstreaming
Multiculturalism
Nutrition
Parent Involvement
School Choice
School Safety
Special Education
Staff Development
Teacher Training
Teaching Methods
Urban Education
Values
Vocational Education
Writing

For a current listing of available fastbacks and other publications of the Educational Foundation, please contact Phi Delta Kappa, 408 N. Union, P.O. Box 789, Bloomington, IN 47402-0789, or (812) 339-1156.

Phi Delta Kappa Educational Foundation

The Phi Delta Kappa Educational Foundation was established on 13 October 1966 with the signing, by Dr. George H. Reavis, of the irrevocable trust agreement creating the Phi Delta Kappa Educational Foundation Trust.

George H. Reavis (1883-1970) entered the education profession after graduating from Warrensburg Missouri State Teachers College in 1906 and the University of Missouri in 1911. He went on to earn an M.A. and a Ph.D. at Columbia University. Dr. Reavis served as assistant superintendent of schools in Maryland and dean of the College of Arts and Sciences and the School of Education at the University of Pittsburgh. In 1929 he was appointed director of instruction for the Ohio State Department of Education. But it was as assistant superintendent for curriculum and instruction in the Cincinnati public schools (1939-48) that he rose to national prominence.

Dr. Reavis' dream for the Educational Foundation was to make it possible for seasoned educators to write and publish the wisdom they had acquired over a lifetime of professional activity. He wanted educators and the general public to "better understand (1) the nature of the educative process and (2) the relation of education to human welfare."

The Phi Delta Kappa fastbacks were begun in 1972. These publications, along with monographs and books on a wide range of topics related to education, are the realization of that dream.